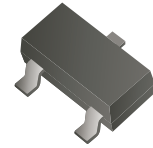


MMBTA63/64-HF (PNP)

RoHS Device
Halogen Free



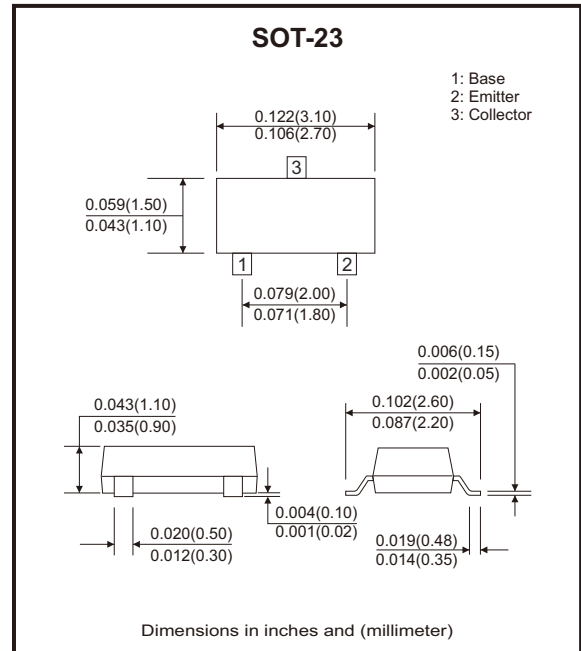
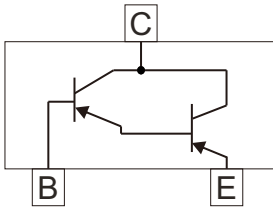
Features

- Epitaxial planar die construction.
- High current gain.

Mechanical data

- Case: SOT-23, molded plastic.
- Mounting position: Any.

Circuit Diagram



Maximum Ratings (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Units
Collector-base voltage	V_{CBO}	-30	V
Collector-emitter voltage	V_{CEO}	-30	V
Emitter-base voltage	V_{EBO}	-10	V
Collector current (DC)	I_C	-0.5	A
Collector dissipation	P_C	0.3	W
Thermal resistance, junction to ambient	$R_{\theta JA}$	417	°C/W
Junction and storage temperature	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (at Ta=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Units
Collector-base breakdown voltage	$I_C = -100\mu A, I_E = 0$	$V_{(BR)CBO}$	-30			V
Collector-emitter breakdown voltage	$I_C = -0.1mA, I_B = 0$	$V_{(BR)CEO}$	-30			V
Emitter-base breakdown voltage	$I_E = -100\mu A, I_C = 0$	$V_{(BR)EBO}$	-10			V
Collector cut-off current	$I_E = 0, V_{CB} = -30V$	I_{CBO}			-0.1	μA
Collector cut-off current	$I_E = 0, V_{CE} = -10V$	I_{CEO}			-0.1	μA
Emitter cut-off current	$I_C = 0, V_{EB} = -10V$	I_{EBO}			-0.1	μA
DC current gain	MMBTA63-HF $V_{CE} = -5V, I_C = -10mA$	h_{FE}	5000			
	MMBTA64-HF $V_{CE} = -5V, I_C = -10mA$	h_{FE}	10000			
	MMBTA63-HF $V_{CE} = -5V, I_C = -100mA$	h_{FE}	10000			
	MMBTA64-HF $V_{CE} = -5V, I_C = -100mA$	h_{FE}	20000			
Collector-emitter saturation voltage	$I_C = -100mA, I_B = -0.1mA$	$V_{CE(sat)}$			-1.5	V
Base-emitter on voltage	$I_C = -100mA, V_{CE} = -5V$	$V_{BE(on)}$			-2.0	V
Transition frequency	$I_C = -10mA, V_{CE} = -5V, f = 100MHz$	f_T	125			MHz

Typical Rating and Characteristic Curves (MMBTA63/64-HF)

Fig.1 - DC Current Gain

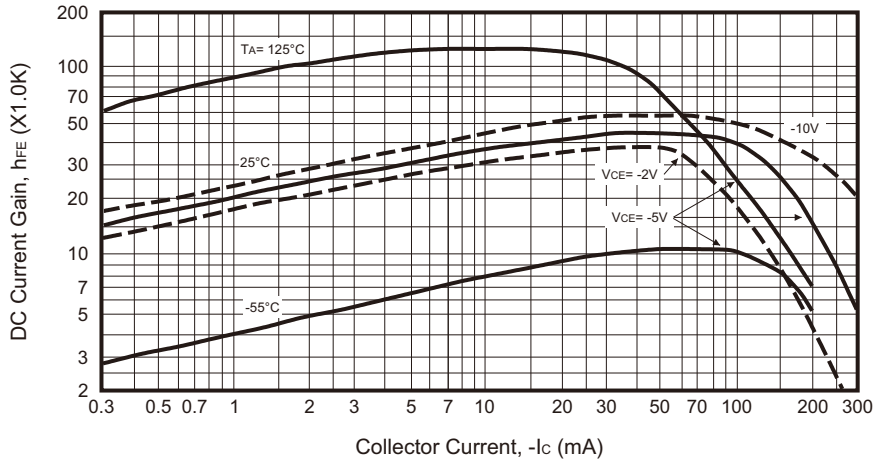


Fig.2 - On Voltage

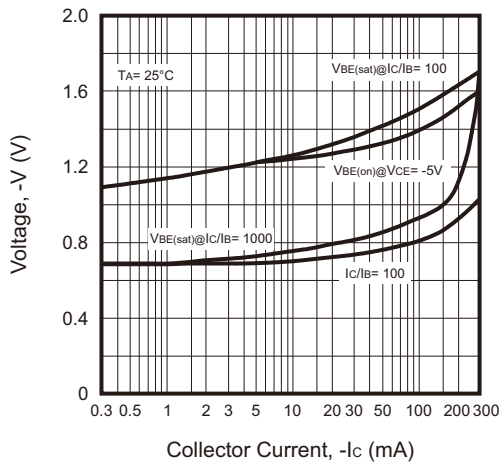


Fig.3 - Collector Saturation Region

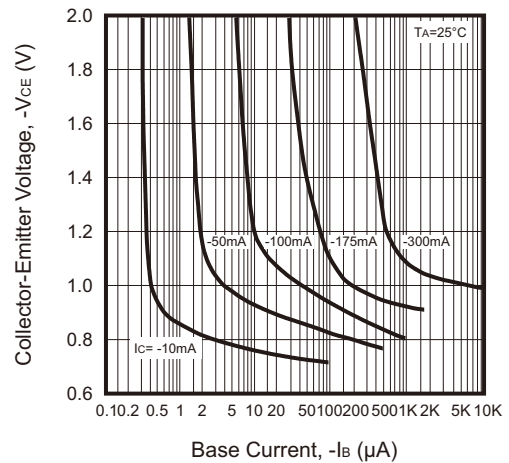
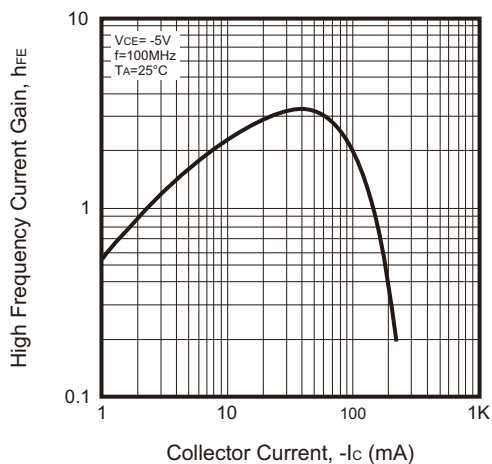
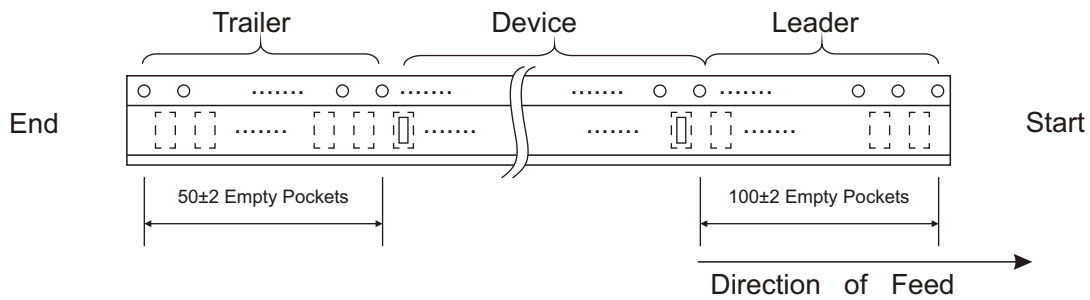
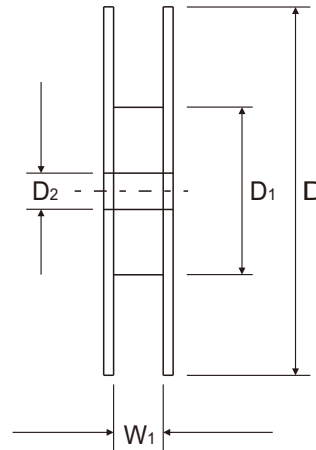
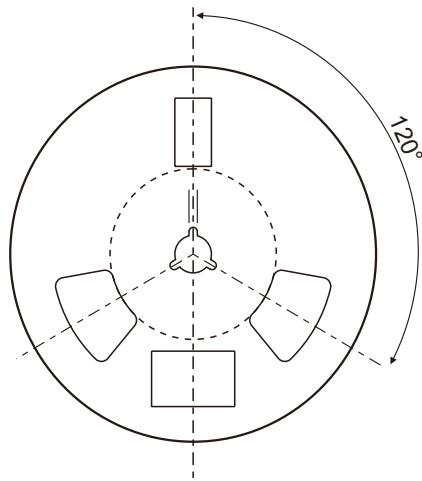
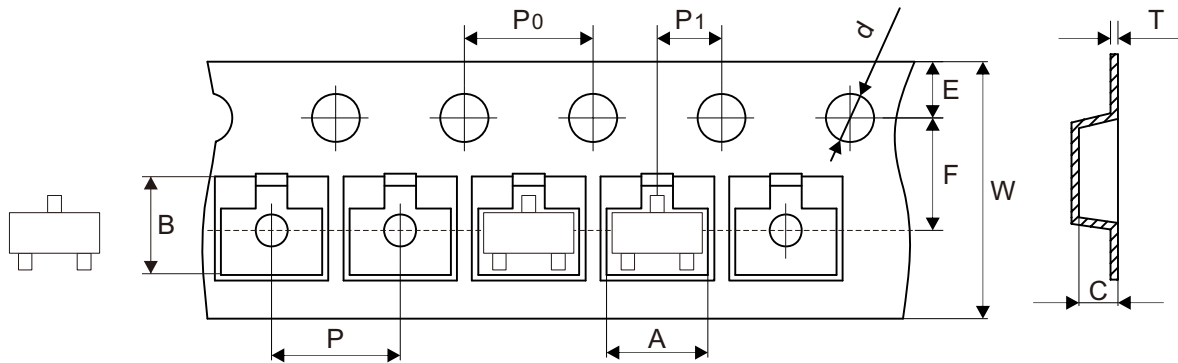


Fig.4 - High Frequency Current Gain



Reel Taping Specification

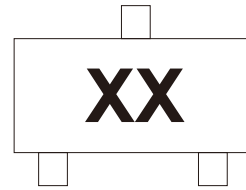


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

SOT-23	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.02	8.00 ± 0.30	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 ± 0.012	0.374 ± 0.039

Marking Code

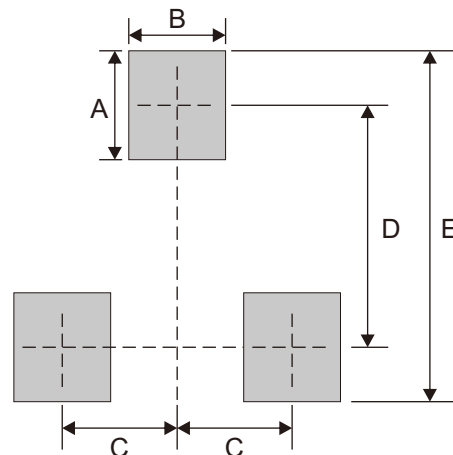
Part Number	Marking Code
MMBTA63-HF	2U
MMBTA64-HF	2V



xx = Product type marking code

Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.90	0.035
B	0.80	0.031
C	0.95	0.037
D	2.00	0.079
E	2.90	0.114



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-23	3,000	7